

A4

# (12) UK Patent Application (19) GB (11) 2 196 896 (13) A

(43) Application published 11 May 1988

(21) Application No 8723418

(22) Date of filing 6 Oct 1987

(30) Priority data

(31) 61/156952

61/170700

(32) 14 Oct 1986

6 Nov 1986

(33) JP

(51) INT CL<sup>a</sup>

B26F 1/32 B25C 7/00

(52) Domestic classification (Edition J):

B4C 106 C6 D1

B4B 11A1 16A 16D

(56) Documents cited

GB 1536527

GB 1492217

(71) Applicant

Plus Corporation

(Incorporated in Japan)

20-11 Otowa 1-chome, Bunkyo-ku, Tokyo, Japan

(72) Inventor

Hidefumi Amagaya

(74) Agent and/or Address for Service

Audrey E. Knowles,

Audrey Knowles & Co., 624 Pershore Road, Selly Park, Birmingham B29 7HG

(58) Field of search

B4C

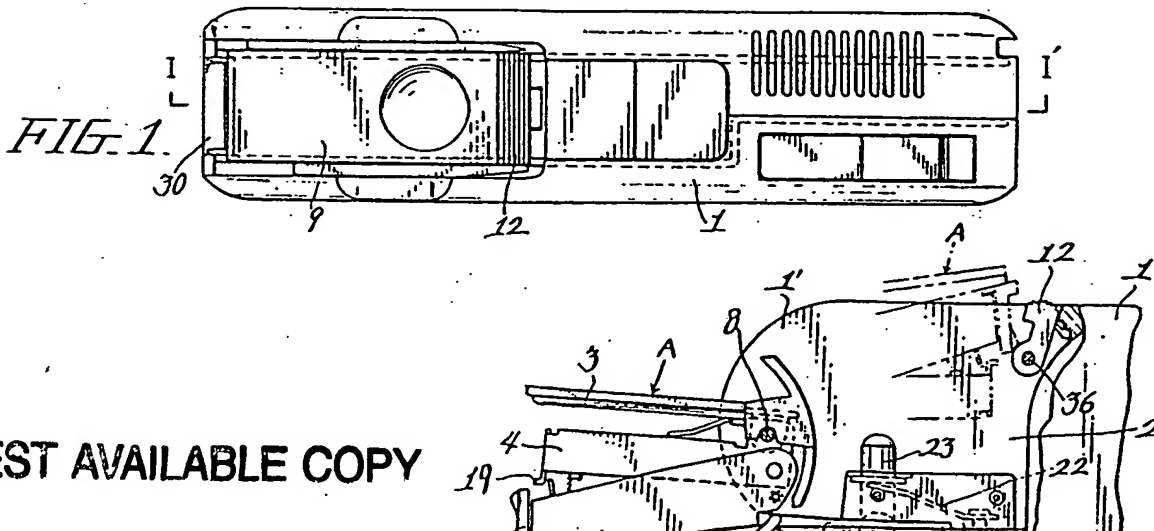
B4B

A4B

Selected US specifications from IPC sub-classes B25C B26F

## (54) Portable stationery device

(57) A portable stationery device has a punching device B disposed in a lower portion of a gap 2 in a holder 1 and a stapler A disposed in an upper portion of the gap 2 above the device B. The stapler A is locked in the gap 2 by a piece 12 and comprises relatively pivotable anvil, staple storage and staple driving frames 3, 4 and 5. The device B includes a punching rod 23 biased toward frame 3 by spring 22 and defines a slot 21 into which paper sheet is inserted for punching. Punching and stapling are performed after the stapler has been unlocked and drawn outwardly relative to the gap 2. A pressing piece 9 is slidable on frame 5 between a retracted position in which its projection 9a abuts a piece 9 on frame 4 to press down the stapler A against rod 23 to punch a hole in the sheet received in slot 21, and an advanced position in which piece 9 can press down frame 5 and driving rod 31 to staple a sheet. The advanced position can be automatically achieved by turning the stapler right out.



BEST AVAILABLE COPY

GB 2 196 896

2196896

1/4

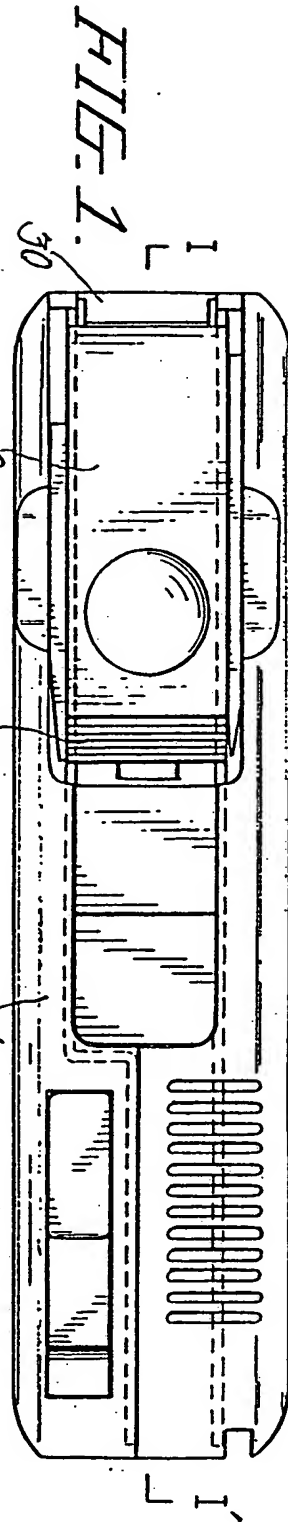


FIG. 2.

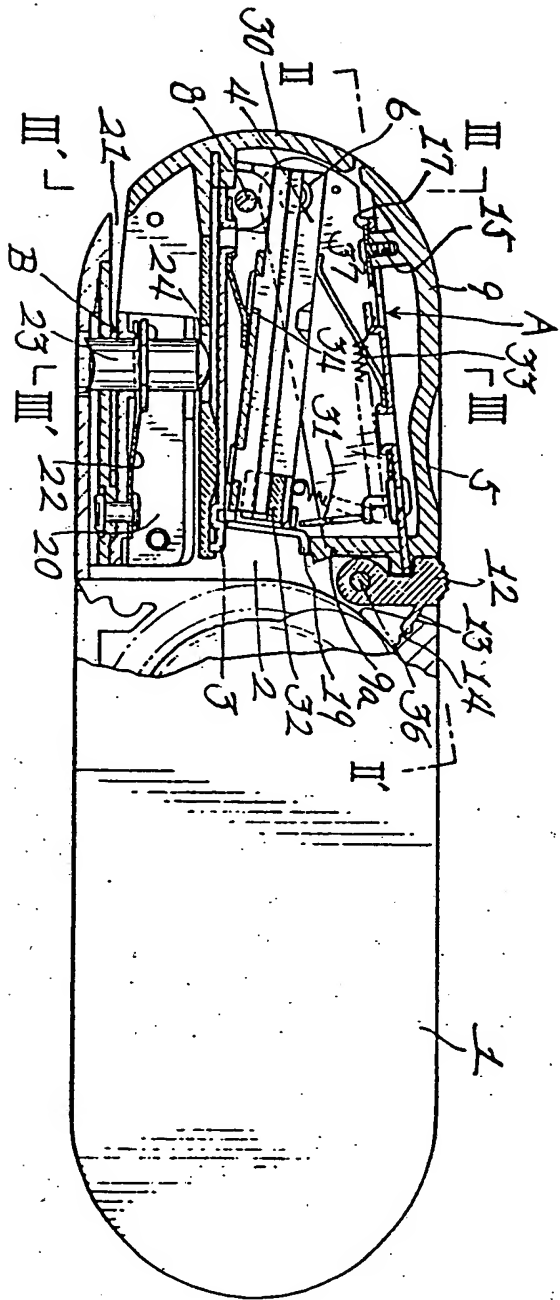


FIG. 3.

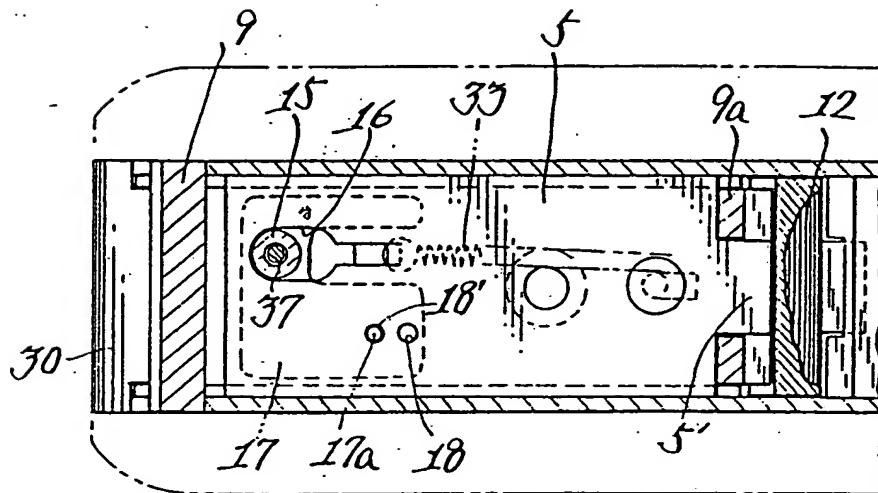


FIG. 4.

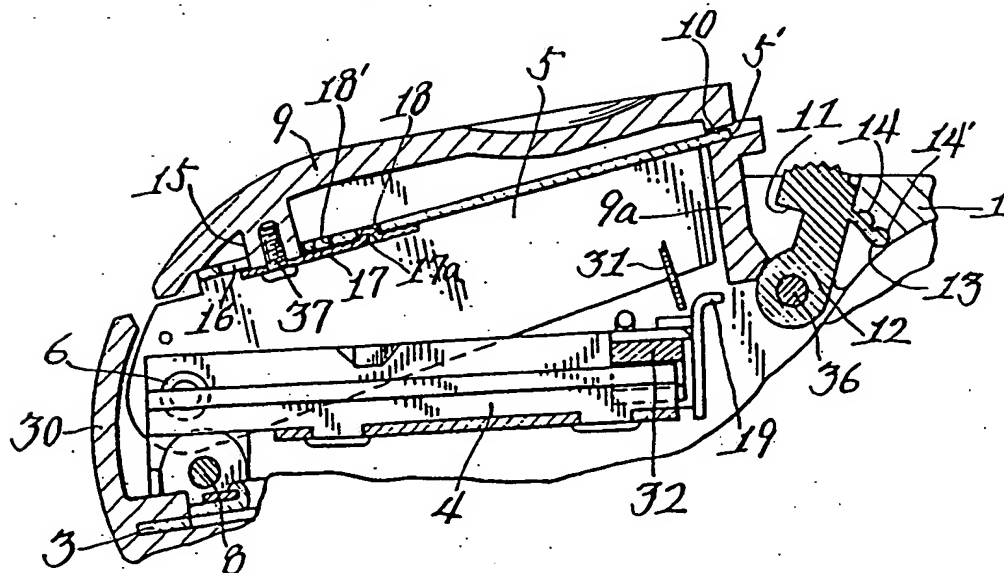


FIG. 5.

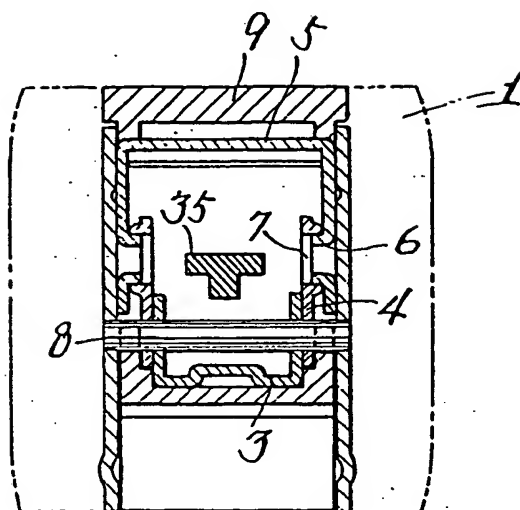
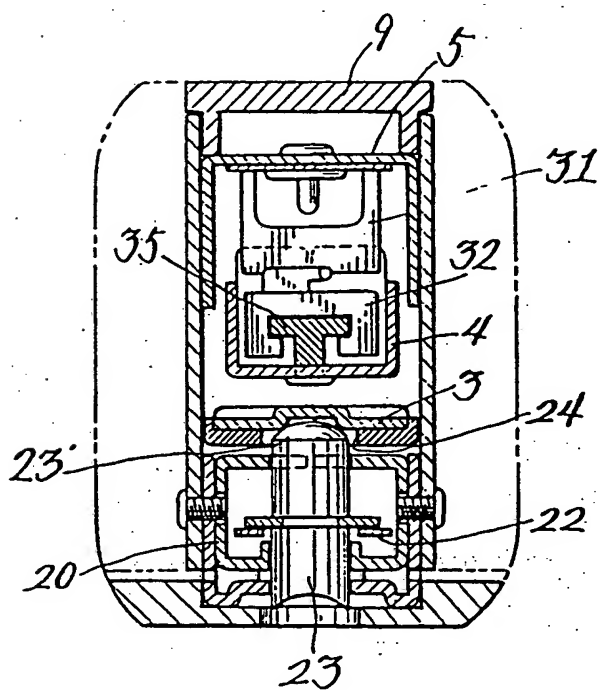


FIG. 6.



[illegible]

## SPECIFICATION

### Portable stationery device

5 This invention relates to a portable stationery device used to effect a preliminary task in the arrangement and filing of office papers in which the papers are to be bound with staples or punched for filing in a binder.

10 Traditionally, staplers are used to bind papers with staples, and punches are used to punch holes for binding papers in binders or the like. Since a stapler and a punch are ordinarily provided as separate devices, they must always be ready to use when required and are therefore inconvenient in terms of portability and handling.

15 It is therefore an object of the present invention to provide a portable stationery device which is useful in being capable of application to the functions of both a stapler and a punch, as well as being convenient when being carried.

20 The present invention provides a portable stationery device comprising a holder incorporating a stapler and a punching device in such a manner that both of these devices can be used selectively.

25 An exemplary embodiment of a portable stationery device according to the present invention will now be described in more detail and with reference to the accompanying drawings wherein:

30 FIGURE 1 is a plan view of the portable stationery device;

35 FIGURE 2 is a partially cutaway cross-sectional view taken along the line I—I' of Figure 1;

40 FIGURE 3 is a cross-sectional view taken along the line II—II' of Figure 2;

45 FIGURE 4 is a cross-sectional view of Figure 3;

50 FIGURE 5 is a cross-sectional view taken along the line III—III' of Figure 2;

55 FIGURE 6 is a cross-sectional view taken along the line of IV—IV' of Figure 2;

60 FIGURE 7 is a side view of the portable stationery device shown while a punching device is being used; and

65 FIGURE 8 is a side view of the portable stationery device shown while a stapler is being used.

Referring to the drawings, a portable stationery device is shown comprising a holder 1 incorporating a stapler A and a punching device B.

The stapler A is fitted into an accommodation gap 2 formed in an upper part of the holder 1 and is provided with a staple receiving frame 3, staple accommodation frame 4 and operation frame 5. These frames are supported at the root portion of the stapler such as to be pivotally relative to each other. A

70 tion hole 7 formed in the staple accommodation frame 4 so that the members 4 and 5 are pivotally supported one on the other. The staple accommodation frame 4 and the staple receiving frame 3 are pivotally supported by a support shaft 8 laterally disposed in the accommodation gap 2 of the holder 1. These members are thus assembled so that the stapler A is capable of being drawn out from and retracted into the holder 1.

75 An operation piece 9 which has an extension 9a extending downwardly from the top end of the operation piece 9 is disposed outside of the operation frame 5 of the stapler A. A through hole 10 is formed in the base portion of the extension 9a of the operation piece 9. A locking piece 12 having an engaging surface 11 which is engaged with an end 5' of the operation frame 5 passing through the through hole 10 is pivotally supported by a pin 36 on the holder 1. A locking piece projection 13 formed on the locking piece 12 at the opposite side thereof relative to the engaging surface 11 is engaged with one of outer and inner engaging recesses 14 and 14' formed in the body of the holder 1, thereby enabling the stapler A to be maintained in the accommodation gap 2 of holder 1 or released from the same.

90 A projection 15 is formed on the inner surface of the operation piece 9 at the other end thereof near the root portion of the stapler and is engaged with an hole 16 which is formed in the operation frame 5 such as to be elongated in the longitudinal direction of the stapler. A plate spring 17 is attached at its one end to the lower surface of the projection 15 by a screw 37, and the plate spring 17 has a raised portion 17a formed at the other end nearer to the top of the stapler. A pair of fore and rear through holes 18 and 18' selectively engageable with the raised portion 17a are formed in the operation frame 5. The raised portion 17a is engaged with the fore through hole 18 when the operation piece 9 is moved along the operation frame 5 toward the top of the stapler and is engaged with the rear through hole 18' when the operation piece 9 retreats, thereby maintaining the advanced or retreated position of the operation piece 9 on the operation frame 5.

115 A receiving piece 19 which is formed at the top of the staple accommodation frame 4 such as to project in the longitudinal direction thereof is disposed below the extension 9a of the operation frame 9 in the retreated position.

120 The punching device B is disposed in the lower portion of the holder or in the innermost part of the accommodation gap 2. The punching device B has a base frame 20. The base frame 20 has a gap 21' corresponding to a gap 21 which is formed in a side wall 1'

also has a punching rod 23 which is constantly urged by a spring 22 in the upward direction and which perpendicularly moves across the gap 21'. The top end 23' of the punching rod 23 projects into the accommodation gap 2 by the urging force of the spring 22.

The punching rod 23 projecting into the accommodation gap 2 is engaged with a hole 24 formed in an intermediate portion of the staple receiving frame 3 of the stapler A when the stapler A is accommodated in the accommodation gap 2, thereby limiting the projection of the punching rod 23.

A cover piece 30 which is attached to the staple receiving frame 3 serves as a member for improving the appearance of the holder when the stapler A is accommodated in the accommodation gap 2.

A staple pressing plate 31 is disposed in the operation frame 5 in such a manner that it does not press any staple accommodated in the staple accommodation frame 4 when the operation piece extension 9a is received by the receiving piece 19 (when the operation piece 9 is in the retracted position on the operation frame 5), or that the staple pressing plate 31 does not contact any staple when the extension 9a is brought into contact with the receiving piece 19 by turning the operation frame 5 or the operation piece 9. To achieve this relationship, the length of the extension 9a may be increased in relation to the length of the staple pressing plate 31, or the position of the receiving piece 19 may be set to be higher than that of the staples accommodated.

A supplying piece 32 for supplying staples is urged by a spring 33 toward the top of the staple accommodation frame 4. A return spring 34 is stretched between the staple accommodation frame 4 and the staple receiving frame 3.

When, in the device thus constructed, the locking piece 12 is turned so as to engage the engaging projection 13 with the inner engaging recess 14', the end of the operation frame 5 is released from the engaging surface 11 of the locking piece 12. In this state, the punching rod 23 is moved upwardly by the spring 22, thereby pushing all of the members of the stapler A upwardly and positioning the rod 23 at the opening of the gap 21'. A sheet of paper S to be punched is thereafter inserted into the insertion gap 21, and the operation frame 9 is pressed so that the extension 9a presses down the receiving piece 19, the staple accommodation frame 4 presses down the staple receiving frame 3, and the punching rod 23 is pressed down by the staple receiving frame 3 at a portion around the hole 24, thereby punching the sheet S.

If the stapler A is turned about the support

operation piece extension 9a is displaced from the position right above the receiving piece 19. If at this time the operation piece 9 is pressed, the staple pressing plate 31 presses down one of the staples, thereby effecting binding operation of the stapler in an ordinary manner.

However, if the stapler is turned about the support shaft 8 to the dead point, the root end of the operation piece 9 hits or contacts the opening end of the insertion gap 21 so that, the operation piece 9 advances, in a manner of speaking, automatically along the operation frame 5, thereby enabling binding operation.

The stapler is also provided with a staple mount piece 35 disposed in the staple accommodation frame 4.

According to the present invention, as described above, a stapler and a punching device are accommodated in a holder. Therefore they are convenient when being carried. Also it is possible to effect punching operation by pressing down the members of the stapler, thereby minimizing the number of components. Since the stapler can be used after being turned about the support shaft to project from the accommodation gap, the punching device does not obstruct the binding operation. The present invention thus realizes a useful portable stationery device.

#### CLAIMS

1. A portable stationery device comprising a holder, a punching device disposed in a lower portion of the holder, and a stapler disposed in an upper portion of the holder above the punching device and capable of being drawn out and retracted.

2. A portable stationery device according to Claim 1 wherein the punching device is disposed in a lower part of an accommodation gap formed in the holder and the stapler is disposed in an upper part of the accommodation gap.

3. A portable stationery device according to Claim 1 or Claim 2 wherein the stapler is composed of a staple receiving frame, a staple accommodation frame and an operation frame.

4. A portable stationery device according to Claim 2 or Claim 3 wherein the punching device has a punching rod movable generally perpendicularly to the longitudinal direction of the stapler, the top of the punching rod projecting into the accommodation gap, and the punching rod punching a sheet of paper when the stapler is pressed down.

5. A portable stationery device comprising a holder, an accommodation gap formed in an upper portion of the holder, a punching device disposed in a lower portion of the holder and having a punching rod vertically movable, the

- provided in the punching device; a stapler fitted into the accommodation gap and capable of being drawn out and retracted, the stapler being pivotally supported at its root portion by a support shaft laterally disposed in the holder, the stapler having a staple receiving frame, a staple accommodation frame and an operation frame, the frames being pivotally supported on the holder, an intermediate portion of the staple receiving frame being positioned right above the punching rod, an operation piece having at its top a downwardly extending extension, the operation piece being attached to the outside of the operation frame such as to be movable in the longitudinal direction of the stapler, and a receiving piece disposed below the position assumed by the extension of the operation piece when the operation piece is in a retreated position nearer to the root portion of the stapler, the receiving piece being formed on the top of the staple accommodation frame such as to outwardly project in the longitudinal direction thereof.
- 25 6. A portable stationery device according to Claim 5, further comprising a projection extending downwardly from a root portion of the operation piece, the projection engaging with a hole formed in the operation frame
- 30 such as to be elongated in the longitudinal direction thereof, and a plate spring whose one end nearer to the root portion of the stapler is attached to the lower surface of the projection and which has a raised portion
- 35 formed at the other end, the operation frame having a pair of through holes which are engageable with the raised portion when the operation frame advances or retreats.
- 40 7. A portable stationery device according to Claim 5 or Claim 6 further comprising a locking piece pivotally supported on the holder, the locking piece engaging with the top of the operation frame when the stapler is fitted into the accommodation gap.
- 45 8. A portable stationery device comprising a holder incorporating a stapler and a punching device in such a manner that both of these devices can be used selectively.
- 50 9. A portable stationery device according to Claim 8 further comprising an operation piece movable between a first position for operation of the punching device and a second position for operation of the stapler.
- 55 10. A portable stationery device according to Claim 9 wherein the stapler is pivotal relative to the holder and the operation piece is mounted on the stapler.
- 60 11. A portable stationery device according to Claim 10 wherein the punching device includes a punching rod resiliently biased towards the stapler and the stapler is pivotal to depress the punching rod against the resilient

comprises a staple receiving frame, a staple accommodation frame and an operation frame mounted for relative pivotal movement and the operation piece is mounted on the operation frame.

- 70 13. A portable stationery device according to Claim 12 wherein the operation piece acts to restrict relative pivotal movement between the operation frame and the staple accommodation frame in the first position to prevent
- 75 operation of the stapler.

14. A portable stationery device according to any one of Claims 10 to 13 wherein the stapler is pivotal outwardly of the holder for
- 80 operation of the stapler.

15. A portable stationery device according to any one of Claims 10 to 14 further comprising a locking piece for securing the stapler in the holder, the locking piece being releasable to permit pivotal movement of the stapler
- 85 relative to the holder.

16. A portable stationery device substantially as hereinbefore described with reference to the accompanying drawings.

Published 1988 at The Patent Office, State House, 66/71 High Holborn, London WC1R 4TP. Further copies may be obtained from The Patent Office, Sales Branch, St Mary Cray, Orpington, Kent BR5 3RD. Printed by Burgess & Son (Abingdon) Ltd. Con. 1/87.



**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☒ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**

**THIS PAGE BLANK (USPTO)**